

Method for shaping a metallic flat material, method for the
manufacture of a composite material and devices for performing
these methods

The invention relates to a continuous method according to the preamble of claim 1 used for shaping a metallic flat material in order to give a metallic wave profile, as well as a device according to the preamble of claim 9 for performing this method.

The invention also relates to a method according to the preamble of claim 16 for the continuous manufacture of a composite material, in which a wavy flat material shaped according to the invention is joined to a further flat material, a composite material manufactured with the method according to claim 16, as well as a plant according to the preamble of claim 18 for performing the manufacture method according to claim 16.

DE 31 26 948 C2 and DE 32 14 821 C2 disclose a method and a device in which in continuous manner a metallic wave profile is shaped from a metallic flat material, the latter being passed between two meshing tooth systems of two rotating, toothed rolls. For the manufacture of a composite material at least one further flat material is applied and fixed to the thus shaped wavy flat material. The composite material manufactured in this way, compared with solid materials and for the same dimensions, has comparable mechanical characteristics, but a much lower weight.

EP 0 939 176 A2 discloses a method and a device in which intermittently and with the aid of a press a cross-sectionally trapezoidal wave profile is shaped on a metallic flat material. Following the shaping of the wave profile on each side of the flat material a further flat material is fixed to the profile elevations of the wave profile for forming a composite material.